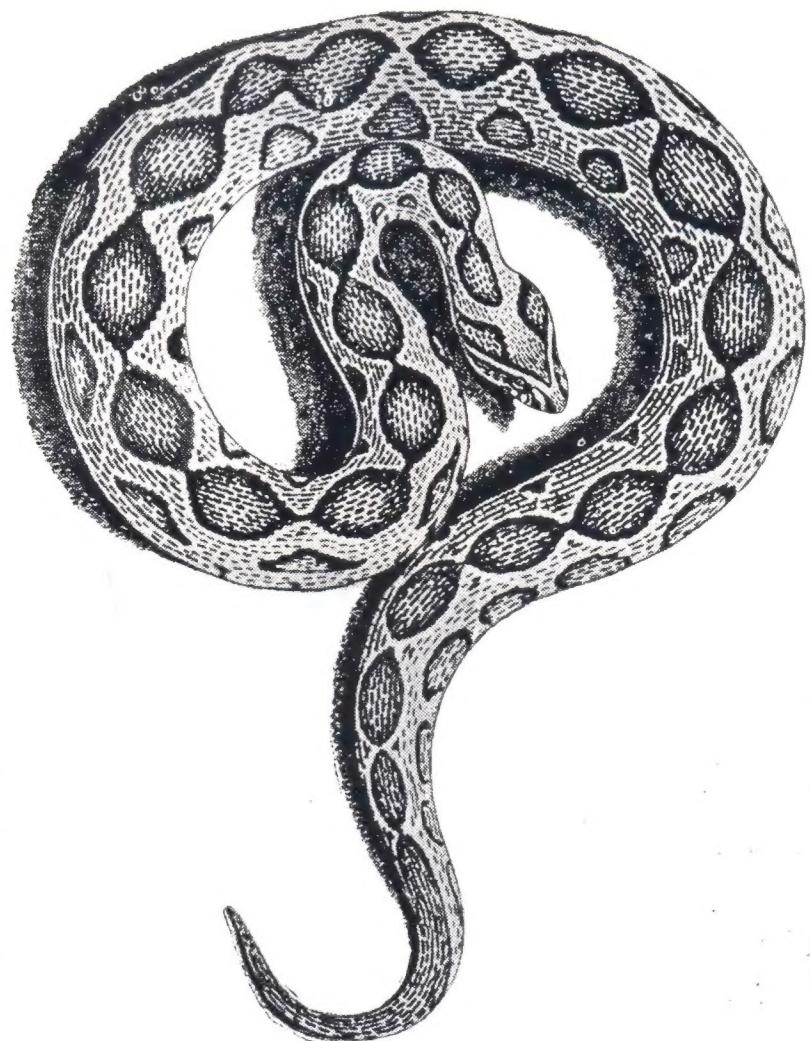


4. NO. 1

HAMADRYAD



From the Oriental Annual, 1834



RUSSELLS VIPER



NEWS FROM THE MADRAS SNAKE PARK
AND MADRAS CROCODILE BANK

A week long "snake show" was held in Ahmedabad by the WWF/Snake Park/Center for Community Science, to raise funds for the Crocodile Bank. Over 75,000 people visited the exhibition and ticket sales netted Rs 22,000, roughly a third of which will go to the crocodile bank project. A similar one was earlier held in Rajkot, Rajasthan.

The state of Bihar has plans for a reptile park near the capital and the Director was invited to Patna by the Forest Department for his suggestions and advice.

Soon after his return from the Gulf of Kutch, the Snake Park's field officer Satish Bhaskar left for the Andaman and Nicobar islands on an extensive survey of sea turtle nesting areas. He has found the first evidence of leatherback nesting in the Andamans.

Colin Williams organized two wildlife competitions for the Snake Park - a crossword puzzle and an essay, for school and college students. Out of about 1150 entries, 50 won prizes in the form of natural history books. Money for prizes came from the Re 1 fee on each entry.

The Snake Park participated in a British Council seminar on the environmental health of Madras, a talk at Madras Christian College and one on All India Radio.

The Snake Park will participate in the 1979 All India Tourist Fair.

The Director will shortly leave for a year in Papua New Guinea to work on the "Assistance to the Crocodile Industry" project.

Visitors to the Crocodile Bank included Dr Peter Pritchard of the Audubon Society and Dr Robert Inger of the Chicago Field Museum.

The Crocodile Bank has received a Rs 30,000 (US\$ 3750) grant (loan to be repaid) from World Wildlife Fund-India. The money has been utilized to buy 3½ acres of adjoining land for development and expansion. Our lawyer Trustee Mr Meenakshisundaram has just completed the tedious process of land registration.

The Crocodile Bank has been given permission by the Forest and Fisheries departments to release mugger in some reservoirs in Tamil Nadu state.

HERP NEWS

35 Die of Snakebite in Ballia District

Ballia: At least 35 persons have died of snakebite over the past 45 days in the district. The worst sufferers are farmers and villagers in the flood-affected areas. (Times of India, 1 August '78).

Venom Export

New Delhi: Snake venom will be allowed to be exported freely by laboratories and institutions which have the facility to extract venom from snakes without killing them (Indian Express, 29 Sept '78).

Snakes Alive, 29 Babies

When a Shataukok villager walked into an empty wooden hut yesterday morning, he was confronted by a 15 ft python hatching its eggs. The python... was later captured by a snake charmer and 29 eggs were recovered. The python, belonging to a Burnese protected species, was released in the countryside later. (South China Morning Post, 25 July '78).

Snakes and Garlic

"I have lived for several years in Madras, which is a famous place for snakes and scorpions, and I know that the poorer classes living in huts and villages are accustomed to place a few cloves of garlic at the entrance and the low windows to prevent the entry of snakes. Captain Bruhman suggests that a piece of garlic should be rubbed over the lower part of the dress... In the case of gardeners or grass-cutters it should be tied round both wrists and ankles. (The Statesman, 7 September '78).

Snake Thief

A thief who snatched a sack off a motor- cycle in Semarang, Central Java, had the fright of his life- it was full of live poisonous snakes. A Jakarta newspaper report said a charmer was taking about 40 snakes to the local zoo when he was robbed on the highway. (Times of India, 11 September '78).

Rat Bites Cobra to Death

A rat bit to death a 15 inch hooded cobra in the South Indian city of Manipal, three days ago, the PTI reported yesterday. The rat bit till the cobra dropped dead while a small crowd watched the unusual fight. (Hongkong Standard, 22 September '78).

Snake Bites and Sheep Fox Serum

Tehran: The 48 year old Razi State Serum and Vaccine Institute at Nessarak is one of the world's largest producers of serum to combat snake bites. Aside from the 500 horses used to produce vaccine culture, the institute has 8,000 live cobras, 1,400 vipers and a large number of rabbits, guinea pigs, mice and hamsters... Iran is self-sufficient in vaccines and even exports them to the U.S. (Tehran, June '78).

ANDAMANS

S. Bhaskar, Field Officer of the Madras Snake Park is currently in the Andaman Islands. He will be in the Andamans and Nicobars for several months gathering data on sea turtle nesting sites. We heard from him on November 5th: "I have so far actually covered South Andaman and almost all the sandy islands nearby, including Rutland. Considering that the work started only on 10th October it was quite a busy period. So far the best turtle-nesting places I've seen are two small islands called the Twins (local name Yachua Tikeri) about 2 kms off Rutland's west coast. Found plenty of hawksbill eggs and evidence of Ridley's nesting. On the Rutland coast directly opposite is a broad sandy beach on which 3 species nest- green, hawksbill and leatherback. Found fresh eggs of the former two species and, mysteriously, dried but otherwise intact leatherback eggs lying on the sand at three different places on the beach. In one were the dessicated remains of a leatherback hatchling. How they finished up intact on the beach floors me. I've caught Varanus salvator eating turtle eggs red-handed; they swallow eggs whole, unlike jackals and dogs- and never leave any eggs. (I've counted 177 hawksbill eggs in one nest). As Allon had said, hawksbill eggs in the Andamans are smaller than Ridley eggs (which I found on the Twins as well as on the east coast of South Andaman)- 34 mm as compared to 37 mm. This appears to be the opposite of the relative sizes in Lakshadweep.

"Some bad news. The camera's had it. While its not yet "done for" (the shutter mechanism is fine) the spring connected to the cocking mechanism appears to have got rusted because of a brief dousing it received while I was swimming a creek which came in my way."

Bhaskar has filed a report on results obtained during the first month of his survey:

SEA TURTLES IN THE SOUTH ANDAMAN ISLANDS

Areas surveyed:

1. The coasts of the main island of South Andaman barring those along the Jarawa Tribal Reserve.
2. The Rutland Island coast excluding its eastern face,
3. The 12 small islands that form the Labyrinth group which lies off Wandoor, South Andaman.
4. The Twins, two islands situated approximately due west of Wood-Mason Bay, Rutland Island.

Period of survey: 7 October to 4 November '78.

Prior to the Government ban in October '77 on the killing of sea turtles and on the collection of their eggs, turtles were actively hunted by fishing communities from the small townships of Maymyo and Wandoor.

Wandoor became the largest "turtle depot" and butchering center in South Andaman, where sea turtles that had been speared using hand-propelled harpoons or less frequently, caught in nets or while nesting were brought and carved up before transportation to Port Blair where the meat fetched Rs 3 to Rs 5 per kg. Turtle eggs were consumed locally

and occasionally sold for 5 paise apiece.

The turtle species usually killed for meat was (and to some extent still is) the green turtle (Chelonia mydas), as was evident from the presence of 34 C. mydas skulls at Vandoor in September '78, a year after the ban. Juveniles as well as adults were taken. The skull width ranged from 9 $\frac{1}{2}$ to 13 cms and averaged 11 $\frac{1}{2}$ cms.

Local estimates of the catch before October '77 range from 5 to 20 turtles during fishing days, the number of which is curtailed mainly by the prevalence of the south-west monsoon. Fishermen of Bengali origin who are reputedly experienced in the use of sails and adept at wielding harpoons state that the heaviest nesting occurs during August but do not state the species involved. At least 3 other species occur in the Andaman sea- the hawksbill (Eretmochelys imbricata), Ridley (Lepidochelys olivacea) and the leatherback (Dermochelys coriacea).

Hawksbills in South Andaman nest well into October (at least)- 23 sets of fresh hawksbill tracks were found on the Twins, known locally as Kachua Tikeri ("turtle island"). The Twins were the most remote of the areas surveyed but even so fishermen occasionally undertake the 3 to 7 hour journey from Vandoor and other coastal hamlets expressly in order to collect turtles and their eggs. Evidence of this was the presence of a stripped carcass of a green on the Eastern Twin island and many turtle egg shells strewn nearby.

Fishermen hesitate to use nets in the shark infested waters around the Twins. On a broad, kilometer-long sandy beach on Rutland Island directly opposite the Twins, both sets of green turtle tracks visible had been made by a turtle lacking the left fore-flipper- in all likelihood the result of a shark attack. The time elapsed between the laying of the two clutches probably represented an inter-nesting interval for the turtle, roughly a fortnight. Another green nest site visible nearby but with tracks obliterated may have been excavated during a still earlier nesting venture by the same turtle- if so, she must have first come ashore to nest about mid-September. This evidence is of course too meagre to delineate the green's nesting season in the Andamans.

Also on the same beach was a fresh hawksbill nest and 5 leatherback egg shells scattered over a 75 meter front. Of these 5, 2 were intact and unbroken and though discolored and dessicated, retained their roughly spherical shape thus facilitating a rough measurement of their diameters. One of these contained the remains of a hatchlings' carapace. That the other did not makes it likely that the eggs came from different clutches (75 mts of sand carpeted by sparse vegetation and separating the two eggs reinforces this possibility). The two intact eggs exclude predation by man or predator and the likely explanation for their presence on the sand surface is that they were uprooted inadvertently by another nesting turtle of the same ~~species~~ or another species. If correct, these presumptions lead one to the exciting possibility that the beach was, sometime during the past few months, a reasonably heavily nested area used probably by leatherbacks, because these large turtles dig deeper body pits and egg chambers than other species do and are therefore more likely to accidentally excavate other nests. Though suitable as a leatherback nesting beach (being sandy and remote) this beach which lies immediately south of Wood-Jason Bay offered no other signs of digging activity by leatherbacks; but the excavations could have been obliterated

during the south-west monsoon months (the beach faces west). About 5 kms away were two leatherback nest sites excavated about 2 months earlier, ie in July or August, on a little disturbed beach on Rutland's southern coast.

About midway between the beaches mentioned were 6 sets of fresh hawksbill tracks on a 1 km wide front. This narrow beach is remote and fringed by tall pandanus. There was evidence of 5 nests. Of these, three had lately been robbed by monitor lizards (V. salvator). Unlike dogs and jackals, monitors leave behind few if any egg shells. I surprised a 2½ ft monitor as it rested on a turtle nest after eating all the eggs. It was sluggish in making its getaway after the heavy meal. There were abundant monitor tracks on Rutland's beaches and on the larger islands of the Labyrinth group, especially on Tarmugli and Redskin, where nesting occurs, as also on Boat Island.

Wild pigs inhabit Rutland Is. but no evidence of predation by them on turtle eggs was found. The relatively heavy nesting on the Twins is at least partly attributable to the absence of monitors there.

Sea turtle nesting also occurs on about 20 small, narrow debris-strewn coves on the rocky eastern coast of South Andaman island from Shoal Bay to Burmanallah, but the density of nesting is low, at least during the survey period. A Lepidochelys nest was found in late October on a narrow sandy cove 1½ km north of Madhuban. There was also a fresh Ridley nest site and two older nest sites about 2½ kms north of Madhuban. One of these had been raided by humans. The reported penalties for possession of turtle eggs (Rs 5 per egg) and for the killing of turtles (Rs 50) will serve as effective deterrents if the turtle protection laws are enforced rigidly.

Species	No. of eggs per clutch	Egg size, mm. (Max. dimension obtainable)	Range in egg size, mm
Hawksbill	139 (range- 96-177)	34.3 (avg. of 8 eggs)	33.0- 37.8
Ridley	119	36.6 (avg. of 4 eggs)	36.2-36.9
Green	93	41.8 (avg. of 2 eggs)	41.4-42.1
Leatherback	?	50 (avg. of 2 dried eggs)	49-51 (dried eggs)

The above data refers to turtles in South Andaman. Data relating to the green and Ridley turtles are each from a single nest; the hawksbill figures are average values from 4 clutches. The leatherback egg diameter is the average of 2 dry but intact eggs found on a Rutland beach. This is the first definitive evidence of leatherbacks nesting in the Andamans.

The representative figures suggest trends to aid in distinguishing between eggs of the four species. The overlap in egg size of the hawksbill and Ridley eggs prevent size alone being a criterion for distinguishing between eggs of the two species. Clutch size may overlap between any two of the species and is therefore even less distinctive.

SEA TURTLE SLAUGHTER IN ORISSA

Regarding the killing of hundreds of sea turtles off the Orissa coast, the Snake Park appealed to the navy to assist in apprehending trawlers responsible for poaching turtles. Rear Admiral Awati has written to the Eastern Naval Command which hopefully will do something to protect turtles during the coming breeding season.

GREENS AROUND KARACHI COAST

"Though no detailed surveys have ever been conducted about sea turtles nesting around Karachi coastal beaches, there is a general impression that this year, greater number of turtles than usual have nested. There is no human eradication and indeed the Sind Wildlife Management Board occasionally sends a Game Warden to patrol the beaches. However, probably 33% of the nests are dug up by feral dogs which eat the eggs and it is difficult to stop this as the dogs are also attracted by the fishing villages in the vicinity. As you probably know, about 90% of the turtles nesting around Karachi coasts are the green turtle (Chelonia mydas). Olive Ridleys are the only other species known to nest on these stretches of coast line. The green turtles are very numerous at this time of the year along the coast and it is actually possible during this season to see pairs of turtles in the water mating with the smaller male clinging to the back of the larger and partly submerged female (T J Roberts).

HAUL OF SKINS IN U.P.

600 ladies bags, 868 wallets and 1000 belts made of snake skin were collectively seized from Maharaja Emporium and other shops in Uttar Pradesh. A fine of Rs 11,000 was imposed.

THE SKIN SCANDAL

Even as the government repeatedly assures us that snake skin export is no longer allowed, the business continues to flourish. The ban came three years ago. But due to incessant pressure from traders, "stock clearance" was allowed- six times. The last was up to 31st October '76. In spite of this, Rs 1,000,000 worth of snake skins were illegally exported from Calcutta between July and December '77----through official channels.

As we all know, there is never any end to "old stocks". The Govt. should stand firm on its decision to end skin export and stop providing loop-holes for unscrupulous traders.

PUFF ADDER ANTIVENINE

In the past the Snake Park has had considerable difficulties in importing antivenine for the foreign venomous snakes. Our Trustee Mr Harry Miller is currently negotiating with the German Embassy in Madras, trying to procure puff adder antivenom from Behring Werke.

ACTING DIRECTOR

Prof M V Rajendran will be Acting Director while the Director is in Papua New Guinea. The honorary secretary, Mr A N J Rao, Mr Harry Miller and others will also be involved in running the Park.

NOTES FROM LAKSHADWEEP (LACCADIVE ISLANDS)

S Bhaskar, Madras Snake Park, conducted a 4½ month survey of sea turtles in the Lakshadweep islands, during Sept '77- Jan. '78

From a nature lover's standpoint, India's Lakshadweep islands, which lie 120 to 200 miles off Kerala's coast constitute a happy hunting ground, as do coral islands all over the world. The marine biologist, fisheries scientist, scuba diver and amateur snorkeller will find enough sea life to keep himself happily occupied indefinitely. In addition, thousands of sea birds of three species nest each year on the uninhabited sandy island of Pitti.

The ten inhabited islands in Lakshadweep are accessible by ship from Cochin, and occasionally from Calicut. Motor launches also ferry passengers between the islands, except to Minicoy, which lies far south- 200 miles from Chetlat, the northernmost inhabited island.

While an official permit is necessary to visit the islands, cottages meant for domestic tourists are being constructed on Kadmat Island. Batches of scuba diving Italian tourists have been regularly visiting uninhabited Bangaram Island since 1975, during Nov-April.

The inhabited islands vary from 250 mts in length to about 5 miles. Many are roughly crescent shaped with a lagoon, protected from the open sea by a circular coral reef, nestling in the hollow of the crescent.

The islanders are all Muslims, their primary occupations being fishing and coconut cultivation. The language spoken is like Malayalam. Minicoyans speak "Mahl", reportedly allied to the language spoken in the Maldives. Lakshadweep includes 16 uninhabited islands and islets. On four of these- Suheli Valiyakara, Suheli Cheriyakara, Bangaram and Timmakara- substantial numbers of sea turtles nest. Inhabited Androth and Kadmat islands also support nesting populations.

The Olive Ridley (Lepidochelys olivacea), the green (Chelonia mydas) and the hawksbill (Eretmochelys imbricata) are the three species present. Fishermen also occasionally encounter the giant leatherback turtle, which grows to 8 ft. All species are actively sought after, except on Minicoy, where many of the able bodied are sea farers. Sea turtles are harpooned, netted or simply grabbed by hand and killed for their fat, which is used as a sealant and preservative for the islander's country craft. These sailing craft transport the islander's produce- copra and dried fish- to the mainland. Some are also used for fishing, though mechanized launches ~~xxxxxx~~ available at government-subsidized rates are more popular.

The shell of the hawksbill is valuable. It is sold to dealers in Calicut, to be converted into ornamental articles-the illegality of capturing turtles and dealing in turtle articles notwithstanding. Turtle eggs are sometimes excavated and turtle meat is occasionally eaten.

All the islands are low-lying, and are devoid of hills. While coconut plantations blanket most of the islands, the land flora is sparse. For example Kavaratti has only 22 species- many of them grasses. Kalpeni island, which was ravaged by a cyclone during the survey period, harbours 14 bird species, some of which are seasonal visitors.

Sentier still is the island's terrestrial fauna. There do not appear to be any endemic species.

Rattus rattus gnaws through coconut husks to get at the kernels and takes a heavy toll of coconuts. A rat eradication programme is under way. Also prevalent are the house mouse (Mus musculus) and a shrew. A mongoose was seen on Androth island. Dogs and cats are not common; on Minicoy some domestic cats have turned wild. Cows, goats and sheep have been introduced from the mainland. Reptiles include the garden lizard (Calotes versicolor), the skink Mabuya carinata and a gecko, Hemidactylus sp. A species of terrestrial snake is said to live on Androth, Agatti, Amini and Kalpeni (possibly Lycodon aulicus).

The marine life more than compensates for the limited flora and fauna found onshore. While snorkelling in three feet of water on a spring low tide in the lagoon bordering Amini Island, I was squirted twice by a small 2 ft long octopus. Its dark brown 'ink' was indeed effective in hiding the creature from view. All around me were men, women and children prodding and skewering octopus in their dens to be later boiled and eaten. The longest specimen measured about 5'

Large and beautiful tiger cowries (Cypraea tigris) more than 3" long crawled about coral patches in water 5-10 ft deep, their polished shells reflecting the sun's rays in the clear water. Vertical under-water visibility often extends to 50 ft - horizontal visibility may be double this distance. A small, streamlined shark traced a tight circle around me and swam off as I snorkelled near the reef a quarter mile from Kavaratti's lagoon shore. Its speed, grace and almost imperceptible swimming motions are impressive. Off Suheli Cheriyakara, the crew of a fishing launch I was travelling in harpooned a manta ray with a 13 ft wingspan. Two turtles copulating at the surface narrowly escaped the same fate.

While swimming in Kavaratti's lagoon, a tiny iridescent blue fish, a "cleaner wrasse" delicately nipped me repeatedly on the legs, searching for microscopic tid-bits -- its more usual occupation being picking off bacteria and dead matter off other fishes' scales and mouth.

Scorpion fishes (Pterois sp.) hovered about boldly, loth to leave off at my approach, as though aware of the poison-laden spines concealed among their frilly fins.

Almost every invertebrate phylum is represented. Large molluscs include the giant clam (Tridacna sp.), 3" cones (Conus betulinus), scorpion shells (Lambis sp.), vase and helmet shells (Vassum and Cass. sp.), Triton shells (Charonia sp.), besides octopi. The coral eating Crown-of-Thorns starfish (Acanthaster planci) is found on many island. Brittle stars and holothurians are frequently encountered under rocks, as also are cowries, sponges, crabs, lobsters and moray eels, to name a few. Cowries, mainly Cypraea caput-serpentis are collected in large numbers from the reefs at low tide and are sold on the mainland for Rs 14 per hundred.

The rapidly increasing population in the islands will soon result in the permanent colonization of Suheli Valiyakara and Suheli Cheriyakara islands, which at present are visited by fishermen and plantation owners only during the fair season. When this comes to pass, sea turtles will inevitably cease nesting on these islands, as they

mostly have on the other inhabited islands. Of more immediate concern is the fencing off of Valiyakara's important nesting beach by plantation owners. Unless these islands are designated as sanctuaries, as Pitti island has been for birds, sea turtles may well cease to nest here.

"THE DISGUSTING RACE OF SERPENTS....."

(From the Preface to "An Account of Indian Serpents Collected on the Coast of Coromandel" by Patrick Russell, London 1796.)

Few Branches of the Natural History of the East Indies, have been less cultivated in the Company's establishments abroad, than that of Serpents. It must be acknowledged, that it offers no attractive allurements; and that those who, from other avocations, can only spare transient attention to subjects of Natural History, are more likely to prefer objects less disgusting, and experiments accompanie with less cruelty, and personal danger. Even the eager and resolute Naturalist has to contend with many difficulties in this path of research. He cannot, at once, divest himself of the abhorrence, next to innate, of these reptiles; nor can he soon acquire a dexterity in handling them, with that calmness requisite for his own safety. The search for plants, for birds, for even insects, is comparatively pastime, or pleasurable occupation; but in the actual pursuit of the disgusting race of serpents, he stands in need of assistants who are not, at all times, to be procured; and if he relies solely on the diligence of such as he may employ, he will find himself exposed to the chagrin of incessant disappointment. Nor is this all; to a stranger not acquainted with the language of Hindostan, the difficult of obtaining local information, is often increased by the stupidity of menial interpreters; the curiosity, at the same time, of the Gentoos, extends little beyond the limits of their ordinary concerns; they are naturally credulous, and have a strong propensity to the marvellous.

That less active, or more casual curiosity, should have been damp amid so many discouragements, will not appear surprising; nor that their influence should have extended even to the province of the medical gentlemen abroad, to which researches into physiology more peculiarly belong. The effect of such influence, however, will hardly be doubted, when, after the opportunities of observation in a course of two Centurics, the medical history of symptoms consequent to the bite of serpents, remains in a state not less defective, than the natural history of the reptiles themselves.

Yet, it is not to be supposed that a subject of such interesting importance in that country, has been altogether neglected. There are many of the gentlemen long resident abroad, who recollect (however imperfectly), circumstances attending accidents, which happened within their own knowledge; and I heard, when in India, of several who had formerly dedicated some leisure hours to experiments on serpents. But it is to be lamented that the scattered information has never been collected; and that the result of experiments, together with accidental discoveries, have not been recorded in a manner to preserve them for the benefit of posterity.

When allowance is made for those who return to their native count and for those who find their graves in India, the European inhabitan

of the British settlements may be said to undergo a total change once in twenty-five years; that is, very few, at the termination of such a period, shall be found remaining in the country, who lived in it at the beginning. The change, it is true, though complete periodically, is produced gradually; and other sorts of knowledge, as well as commercial, may be maintained by oral communication; but Natural History is, at best, very imperfectly transmitted by tradition. What finds its way from one era to another, usually arrives encumbered with accumulated errors; while corrections, or discoveries, if not committed to writing, perish with the individual whom they were made; hence each era has, as it were, to set out anew, deriving little, if any, advantage from the experience of preceding times.

This, and similar considerations, first suggested the idea of collecting and describing the serpents found on the coast of Coromandel.

The terror occasioned by those numerous reptiles, is immoderately aggravated by the indiscriminate apprehension of all being poisonous. To distinguish, therefore, those that are really so, from such (by far the greater number), as are harmless, becomes a matter next in importance to the discovery of a remedy against their poison.

When it is determined whether the reptile be poisonous or innocent the next requisite is, that it should be so defined, as to obviate the chance of being confounded with any other species, under whatsoe name that species may be known in different places; and the most likely mode of effecting this, is by accurate drawings and descriptions, taken from living, or from recent subjects.

The identity of the species being properly ascertained, it naturally follows to make trials on various animals, in order to discover the effect of its bite. Experiments of this kind chiefly respect poisonous serpents; though they ought not to be confined to such only; mischievous qualities are, by the natives, imputed to snakes, which anatomical inspection demonstrates to be not furnished with a poisonous apparatus; yet the imputation had better be opposed by experiment, than by theoretical reasoning, however specious. The poisonous serpents, nevertheless, are the principal subjects of experiment, as from the effects of their poison on brutes, probable conjectures may be formed concerning their effects on the human species and it is also probable that the same remedies may be nearly of equal service to both. But an object, of all others the most important, was to collect a medical account of the disease, arising from the poison of serpents, as it appears in the human subject; and of the most effectual remedies employed in the cure.

The successful prosecution of a scheme in its nature so extensive required more than the exertions of a private individual. Information was to be solicited from those to whom I was a stranger; for I had the honour to be known to a few only of the gentlemen resident at the different settlements. It was therefore judged advisable, in the first instance, to communicate the design to the Governor of Madras. This being accordingly done in an explanatory Memoir, the design met with entire approbation; the Memoir was ordered to be printed, and together with the recommendations of the Board, to be transmitted to the several subordinate settlements.

TORTOISES FREED

About 950 tortoises (probably Trionyx gangeticus-ed) were set free into the Ganga after a court order saved them from being served as sumptuous dishes, according to a report from Allahabad. The scaly reptiles were booked for Howrah from various stations at the Northern Railway. But the Wildlife Warden, Central Vindhyan Region, who got a tip, raided and seized the unusual goods under the Wild Life (Protection) Act 1972. (Deccan Herald, Dec. 2, '78).

SCHOLARSHIPS

The MSPT Trustees have decided to offer Rs 500 a month scholarships (for one year) to students who wish to study reptiles. Details can be had from the Director, Madras Snake Park, Madras 600 022.

LIBRARY FACILITIES

The Snake Park library has a growing collection of books on natural history, both technical and popular. In addition we receive journals and magazines from India and abroad. We invite Hamadryad subscribers to come and use the library from 9.30 to 5 p.m. Books may not be taken away from the Park. Contact either Miss Ievciro or Mr Gabricllo.

WORLD WILDLIFE FUND BOOTH

There is now a permanent WWF-India booth at the Snake Park, near the office entrance, with WWF cards, stickers, posters and calenders. We shall also sell snake park and crocodile bank T-shirts and publications.

HAMADRYAD SUPPLEMENTS

The Snake Park sponsors and undertakes several field surveys every year, such as those in the Gulf of Mannar, Gulf of Kutch and the Andaman Islands. Detailed reports resulting from each study are edited into popular and scientific notes but we are still left with the fat, meaty originals. It is to give these a wider circulation that we have started the practice of printing occasional supplements to Hamadryad. Supplement No. 1 (Crocodile References in the Journal of the Bombay Natural History Society) is the result of our forays into the BNHS library, ably escorted by Mr Serrao, the librariah.

The supplements will mean additional expenditure but we are too terrified to raise our subscription rates for fear of losing our small band of subscribers. Donations are the answer, and Hamadryad will be happy to receive gifts for the new year.

HERPETOLOGY IN INDIA

We want to compile a list of Indian herpetologists and seek the help of readers in India. Information should include full name, address, and the subject specialized in.

APPEAL

The Crocodile Bank has received permission to import the 3.2 mts male gharial from Frankfurt Zoo on a breeding loan. Our female is mature and captive breeding would help toward ensuring the survival of this rare and interesting crocodilian. The Crocodile Bank is seeking funds or airline sponsorship to get the gharial to Madras. If you can help or advise on who we should approach please write to us.

INTERNATIONAL CROCODILE BANK

At a recent meeting the Trustees of the Crocodile Bank agreed that the Bank should be "internationalized"; ie that we should attempt captive breeding of crocodilians other than the three Indian species.

The tropical climate of Madras, and the facilities at the Crocodile Bank, are ideal assets for a world center for breeding and caring endangered crocodilians. Additionally the water table is high. Food (fish, rats, frogs) is abundant and labour, as everywhere in India, is easily available and cheap.

Species such as the Malayan gharial (*Tomistoma schlegelii*) will soon be extinct unless successful captive breeding units are established. There is a very urgent need for a center that could undertake this. Perhaps the Crocodile Bank can fill this gap.

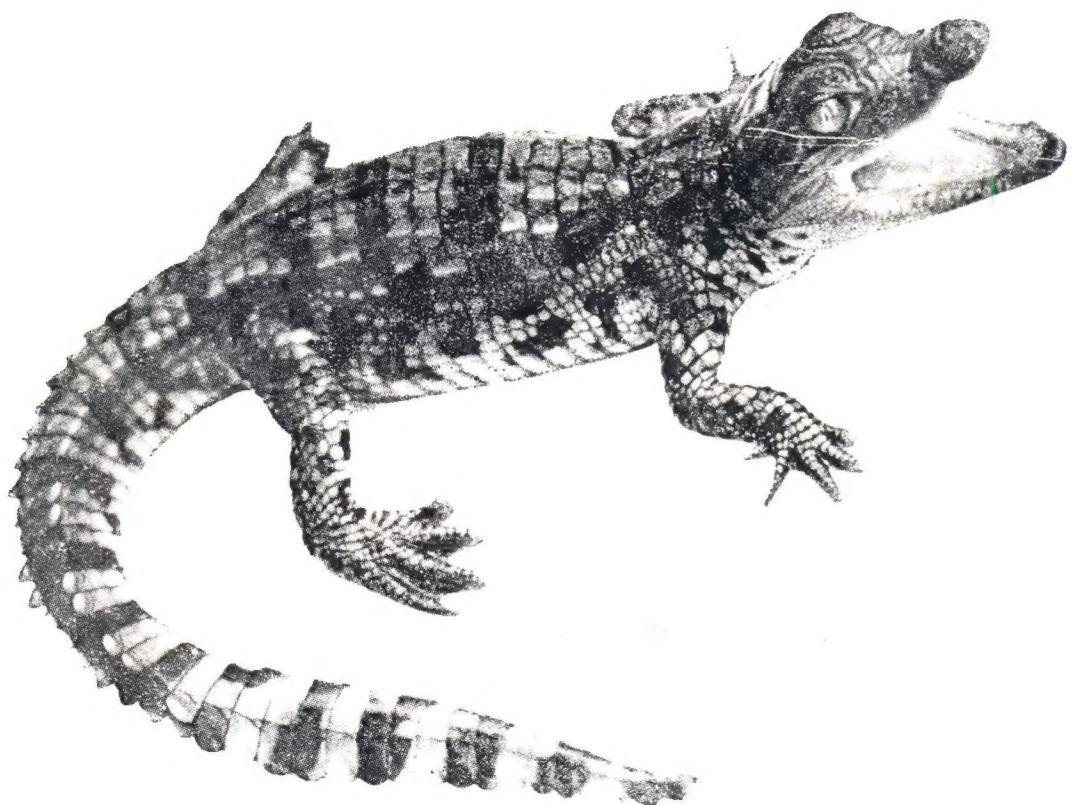
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A HAPPY NEW YEAR!

(even to those who haven't paid their subscriptions).



HATCHLING MUGGER

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Local : Rs. 10 annually

Foreign : \$ 2 annually (surface)

\$ 4 annually (air-mail)

Cheques should be made to the Madras Snake Park Trust

